

House Bill 830**Appropriate Money for Construction & Maintenance of Public Buildings and Systems****Capital Projects**

Enterprise Systems Services Center (Data Center)

Super Computer

Information Technology Projects

Network Expansion

Public Safety Radio Consortium

Public Safety Radio Interoperability

Statewide E-911 Network

Proponent Testimony by Jeff Brandt, Deputy Chief Information Officer (CIO)

Information Technology Services Division (ITSD)

Department of Administration

444-3988

Before the Senate Finance & Claims Committee

April 10, 2007

Madam Chair, members of the committee, for the record my name is Jeff Brandt. I am the Deputy Chief Information Officer (CIO) of the State of Montana.

My testimony is limited to the projects referenced above—IT projects that would be the responsibility of ITSD. In the interest of time, I will limit my comments to a number of recent developments and issues that warrant clarification. I've included supplemental testimony that I won't read in the interest of time but would be glad to address any questions from the committee.

Capital Projects

Enterprise Systems Services Centers. This \$24,150,000 proposal (General Fund, OTO) includes funding for two new facilities: a data center in the Helena area, a smaller data center in eastern Montana, and the telecommunications links, hardware, and software necessary to connect the two centers. Some clarifying comments:

- The sub-standard conditions associated with the data center in the Mitchell Building have been well documented in numerous tours, audits and engineering studies and pose a significant risk to the operations of State government.
- All potential existing locations in Helena have been explored as a possible replacement for the current data center and none, including the Federal Reserve Bank building, are adequate.
- Our use of the term "backup" to describe the role of a second data center to be located in eastern Montana has led some to conclude this site can be co-mingled with other data centers. The use of this site for production processing of some critical systems and for "real time" immediate switch over for critical systems that receive primary support from the Helena center, such as the Statewide Voter Registration System, require that it have all equipment and software in perfect synchronization with the primary site in the Helena area.

- The \$24,150,000 includes \$18,850,000 for the primary data center, \$2,250,000 for the alternate data center in eastern Montana, and 3,050,000 for telecommunications circuits, hardware, and software
- Recurring annual costs are estimated at \$530,000 per year which would be recovered through rates charged to agencies.
- There are no new State FTEs associated with this request.

Supercomputer. This \$259,000 initiative (General Fund, OTO) would fund a study to assess the feasibility of establishing a supercomputer facility at Montana Tech in Butte. Some clarifying comments:

- The original proposal of \$9,800,000 (\$2,800,000 General Fund, OTO and \$7,000,000 in additional spending authority for grants) was reduced in House Appropriations to a \$259,000 feasibility study.
- I understand there may be an amendment to restore the project to its original funding level.
- There are no new State FTEs associated with this request.

Information Technology Projects

Network Expansion. This \$7,823,130 two-part proposal (General Fund, OTO) would increase the capacity of the State's data network at the remote office sites, many of which are at or exceeding capacity and on the "backbone" (those segments of the network that carry data that has been consolidated onto large circuits from remote office locations).

- Since the subcommittee hearing ITSD has worked with representatives of Montana's telecommunications industry to address concerns they have with the bill. ITSD has prepared an amendment which we feel addresses most, if not all, of the telecommunications companies concerns.
- The State currently acquires network services from 18 private sector providers. In spite of testimony to the contrary, the capacity of network circuits leased from Montana's telecommunication industry are expected to increase, not decrease. Fully 97% of the \$7.8 million proposal is expected to go to a telecommunications company operating in Montana.
- Most of the discussion on this proposal has been centered on the State entering into an agreement or contract with a telecommunications firm to "light dark fiber" to meet the high data capacity required on the "backbone". "Lighting dark fiber" can be equated to the concept of "buying in bulk".
- In spite of some testimony to the contrary, the State's network (including the "backbone") would carry only government and university traffic and would NOT compete with the private sector by carrying commercial traffic, including selling excess capacity in direct competition with the private sector.
- Annual on-going costs in FY10 and beyond are estimated \$3,230,000 in annual on-going costs comprised of (\$1,036,830 General Fund and \$2,193,170 other sources recovered through rates charged to state agencies).
- There are no new State FTEs associated with this request.

Public Safety Radio: Consortiums & Interoperability Montana (IM). This two-part, \$8,500,000 initiative (General Fund, OTO) would provide the funding for the next phase of the statewide deployment of a public safety radio system for State, local, tribal and federal agencies. Some clarifying comments:

- The funding request includes:
 - \$5,000,000 for funding of the local consortiums (towers, microwaves and repeaters)
 - \$3,500,000 for funding a redundant master controller in eastern Montana and microwave upgrades to provide a redundant networks
- There are no new State FTEs associated with this request.

Statewide E-911 Network. This \$4,000,000 proposal (General Fund, OTO) includes \$2,000,000 for equipment to locate 9-1-1 calls and \$2,000,000 to assist local 9-1-1 dispatch centers with costs associated with locating calls from a cell phone. A few clarifying comments:

- The proposal was amended in the House in a cooperative effort with Montana's telecommunications companies to:
 - direct the funds primarily at those counties with less than 1% of the population
 - specify that all expenditures must be in accordance with the provisions of the Montana Procurement Act
- This bill takes on even greater importance with the demise of HB33, a bill that would have extended a sunset clause in current statute for the 9-1-1 funds distribution formula. The formula in current statute favors counties with small populations because of the difficulty that small counties have raising the funds to upgrade their 9-1-1 dispatch centers.
- There are no new State FTEs associated with this request.

I believe Mary Angela Collins from the Department of Health & Human Services and Lois Menzies from the Judicial Branch are prepared to testify on the projects that I haven't addressed.

I'll be available to answer any questions you may have.

Thank you.

Supplemental Testimony of Jeff Brandt
House Bill 830
Appropriate Money for Construction & Maintenance of Public Buildings and Systems

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INTRODUCTION: This supplemental testimony provides a one-page summary of the Information Technology Services Division's (ITSD's) capitol projects and information technology appropriations contained in HB830.

Capital Project Appropriations

Enterprise Systems Services Centers (Data Centers). This initiative would provide the funding for a new data center in the Helena area to replace a sub-standard data center that is located in the basement of the Mitchell Building and a second, smaller data center located in eastern Montana (outside of Helena's seismic zone). There have been several vulnerability assessments that have all concluded the State is at risk of a major failure of the current data center, including an audit by the Legislative Audit Division, a disaster readiness assessment conducted by the National Guard, and an electrical review conducted by an electrical engineering firm. The second data center, located in eastern Montana, would be in continuous operation to share the work load and significantly reduce, if not eliminate, the disruption of State services resulting from an outage in the Helena data center.

There are no new State FTEs associated with this request.

Appropriation Request: \$24.15 million.

HB830 Appropriation: \$24.15 million.

Supercomputer. This initiative would fund a supercomputer facility at Montana Tech that would support research and business requirements for the region's minerals exploration and associated impacts. Grants and private sector contracts would provide the "challenge grant" funding over and above the State support. The center would be a private, non-profit entity of the State and the Montana University System. Experience in other states has shown that supercomputer facilities have significant economic impact. There are no new State FTEs associated with this request.

Appropriation Request: \$9.8 million.

HB830 Appropriation: \$259,000 Study

Information Technology Appropriations

Network Expansion. This initiative would increase the capacity of the State's data network used by agencies to operate their computer systems. This three-part initiative would: 1) increase the capacity of the main, or "backbone", network circuit running across the State through the lease of "dark fiber" or a managed service private sector contract in response to a competitive bid, 2) increase network capacity to many communities through leases with local private providers, and 3) increase Internet capacity through contracts with the private sector. This initiative is in response to agency requests to increase the capacity of the data network as they upgrade agency computer systems and modernize service delivery methods that rely on the network, and to upgrade remote location connections that are already undersized. There are no new State FTEs associated with this request.

Appropriation Request: \$7.823 million.

HB830 Appropriation: \$7.823 million.

Statewide E9-1-1 Network. This initiative would provide additional funding for the Statewide E9-1-1 Network. This initiative would address the financial difficulties rural Montana counties face in upgrading their 9-1-1 dispatch centers to provide wireless enhanced 9-1-1, a struggle that has slowed the deployment of equipment that enables local governments to provide their citizens with 9-1-1 emergency response, regardless of the type of phone being used to make the 9-1-1 call. The proposal consists of two parts: 1) Position Determining Equipment (PDE). \$2,000,000 would be used upgrade the Statewide E9-1-1 Network to include a PDE. This equipment provides the actual location of a 9-1-1 call from a wireless device, eliminating the costs associated with accessing out-of-state databases for the information. 2) \$2,000,000 would be distributed to the Montana counties for the equipment required in their local 9-1-1 dispatch centers. The formula used to distribute the money would result in distributions primarily to the 40 counties with less than 1% of the State's total population. There are no new State FTEs associated with this request.

Appropriation Request: \$4.0 million.

HB830 Appropriation: \$4.0 million.

Public Safety Radio: Consortiums & Interoperability Montana (IM). This two-part initiative would provide the funding for the next phase of the statewide deployment of a public safety radio system for State, local, tribal and federal agencies known as Interoperability Montana. Interoperability Montana is a locally led, grass-roots project to improve public safety communications. All 56 counties and seven tribal reservations are involved. The Consortium portion of this request would be used to deploy the underlying infrastructure of radio towers, new radios and a microwave network in several additional Montana counties. The Interoperability Montana portion of the initiative would be used to install additional equipment in Eastern Montana that would increase the capacity of the system and ensure continuous operation of the radio system in the event of an equipment failure. There are no new State FTEs associated with this request.

Consortiums:

Appropriation Request: \$5.0 million

HB830 Appropriation: \$5.0 million

Interoperability Montana:

Appropriation Request: \$3.5 million

HB830 Appropriation: \$3.5 million

HB830 - Enterprise Systems Services Centers Proposal

Three key infrastructure areas:

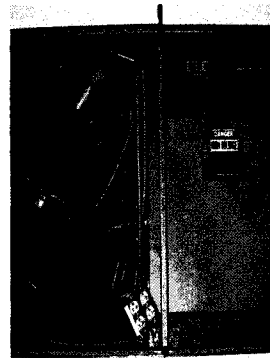
1. Data Center
2. Network Operations Center
3. Voice Operations Center

Enterprise services are available to the full breadth of State government

- All three branches of State government
- Partnering with Montana University System
- Other units of government

**Currently provided out of the Mitchell Building ...
which has serious problems**

- **Security**
 - Proximity to streets & parking
 - Building access/control
 - Lack of floor to ceiling solid walls
- **Water**
 - East wing 12" below grade
 - Plumbing runs
- **Building seismic vulnerabilities**
- **Space**
 - Layout limits use of space
 - No room for expansion
- **Serious deficiencies noted in:**
 - Legislative Audit
 - Independent assessments
 - Tours by legislators and administration officials



Water sump pump
next to high
voltage box



Vulnerable to
drive-up

**Every critical service provided by the State is at risk
due to Mitchell Building deficiencies.**



INFORMATION TECHNOLOGY SERVICES DIVISION



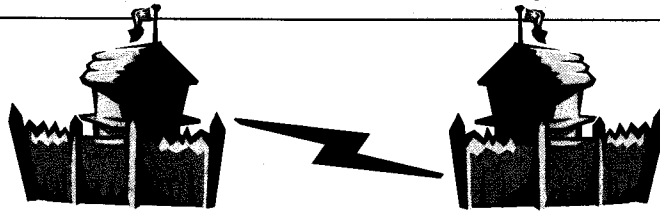
ESSC Proposal

Objective

Move the State's Systems Services out of an inadequate facility that's plagued with problems.

1. **To provide improved security.**
2. **To provide near non-stop operation of critical applications.**
3. **To accommodate the data center needs of other agencies.**
4. **To maximize benefit from disaster recovery/COOP investments.**

Highlights



- **Two facilities**
 - Helena ESSC with technician offices
 - Eastern Montana ESSC
 - Shared production load
 - High speed communications between sites
- **Designed for security**
- **Sized and equipped to handle critical load**
- **Redundancy for critical applications**
 - Communications
 - Computing capacity
 - Application Data
- **Revised approach to Disaster Recovery and COOP**
- **Accommodate capacity requirements of agencies**

Cost Estimate	Initial Cost	Recurring Cost
Helena ESSC & Office Design/Construct	\$18,850,000	
Eastern MT ESSC Design/Construct	\$2,250,000	
High Capacity Telecommunication Links	\$500,000	\$180,000
Hardware & Software (High Availability)	\$1,750,000	\$350,000
Furnishings & Moving Expense	\$800,000	
Total	\$24,150,000	\$530,000



HB830 - Supercomputer Proposal

Objective

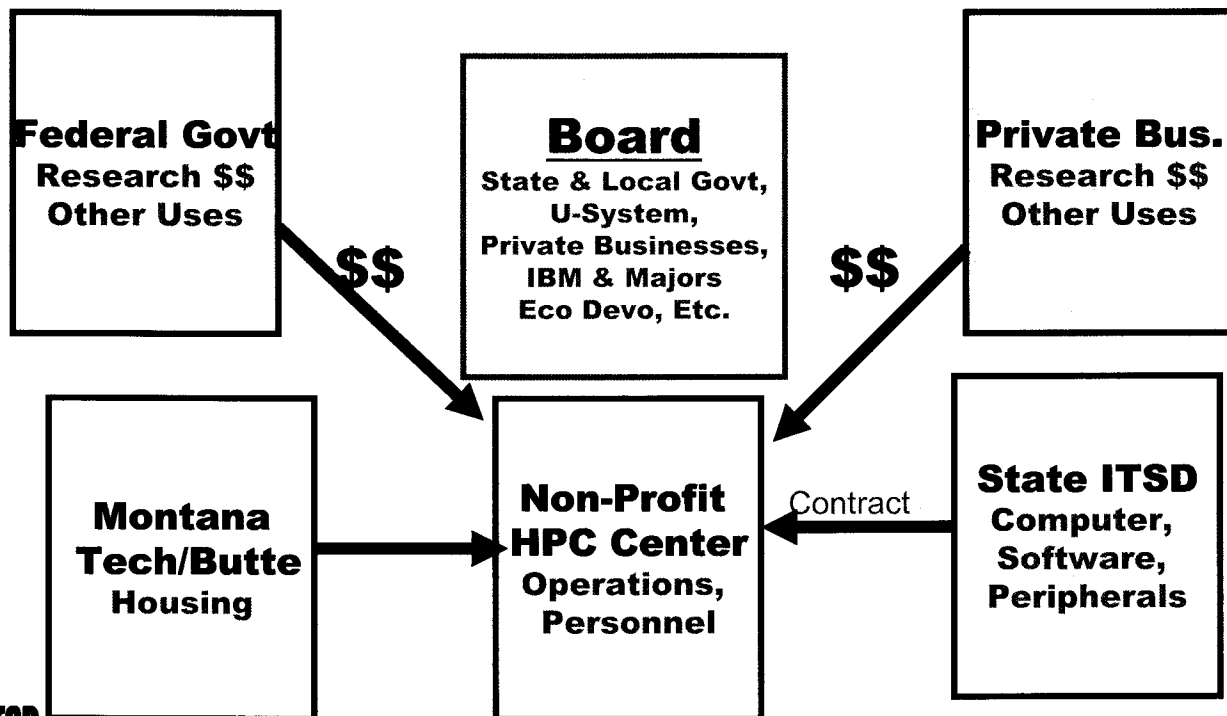
Establish a High Performance Computing (supercomputer) Center at MT Tech to support research contracts and grants:

- MT University System
- Federal research contracts (DHS, DOD, etc)
- Private sector research contracts

Modeled after the successful Miss. State Univ. "High Performance Computing Center"

Benefit

- Improve state's technology infrastructure
- Improve state's competitive positioning
- Improve state's economy – inside and outside "the boot"
- Bring opportunities to emerging workforce
- Bring Montanans & Business home
- Promote Public Private Partnerships



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How Will the Funding Work?

- **State Commitment :**

- Initial Start-up capital: **\$2.8 MM** State money (OTO) for initial Supercomputer equipment configuration
- Operating expense: \$500k/year in ITSD budget (proposed in ITSD budget bill)

- Up to **\$7MM overhead** on grants and contracts funds

- Additional capital increase supercomputer capacity
- Additional operating expense above \$500k/year.

- Spending authority of \$9.8 MM for #1 & #2

HPC Center Cost Estimate	Capital Investment	Recurring Annual Cost
Supercomputer hardware/software	\$5,650,000	
Visualization hardware/software	\$1,000,000	
Network Hardware & Annual Telecom Lease Costs	\$100,000	\$387,000 (see note below) or \$628,000
Tape Storage/Printer peripherals	\$400,000	\$40,000
Power/Cooling/Security/Fire suppression	\$300,000	
Fixed Cost	\$2,350,000	\$200,000
Personnel		\$1,100,000
Total	\$9,800,000	\$1,727,000 or \$1,968,000

Note: The \$387,000 is the circuit cost if HB830 Network Expansion is enacted; the \$628,000 cost is for a Butte-Seattle high-speed link if Network Expansion is not enacted.



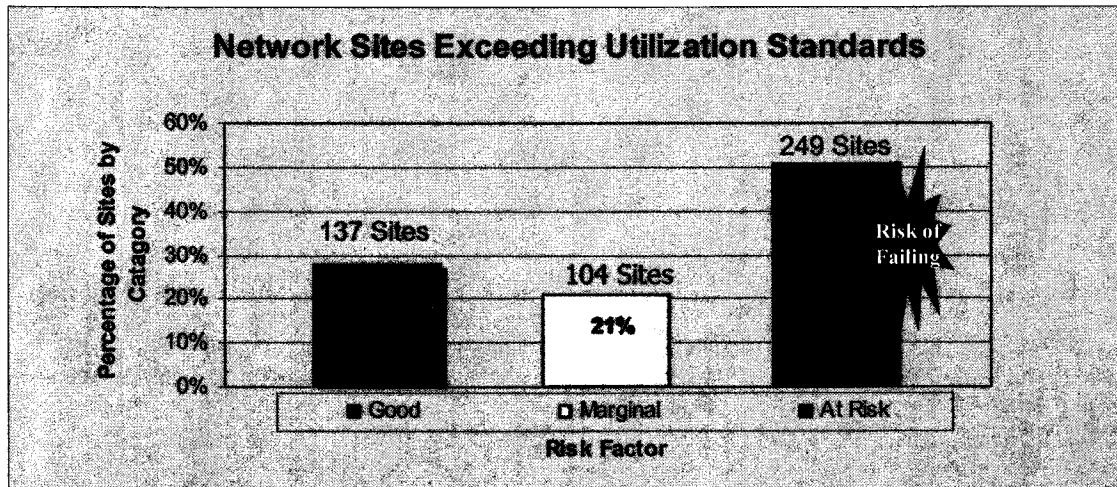
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House Bill 830

State Data Network Upgrade

The Problem: The State's leased network (SummitNet) is operating at (or over) capacity



- Current network (SummitNet) serves almost 500 State offices and University System campuses in 145 communities
- Current network (SummitNet) provided by 18 local telecommunications providers
- Network capacity is stressed: 51% of circuits are at risk of failure due to operating at over capacity

The Requirement: Obtain sufficient network capacity from the telecommunications companies to meet current and future needs at an affordable price

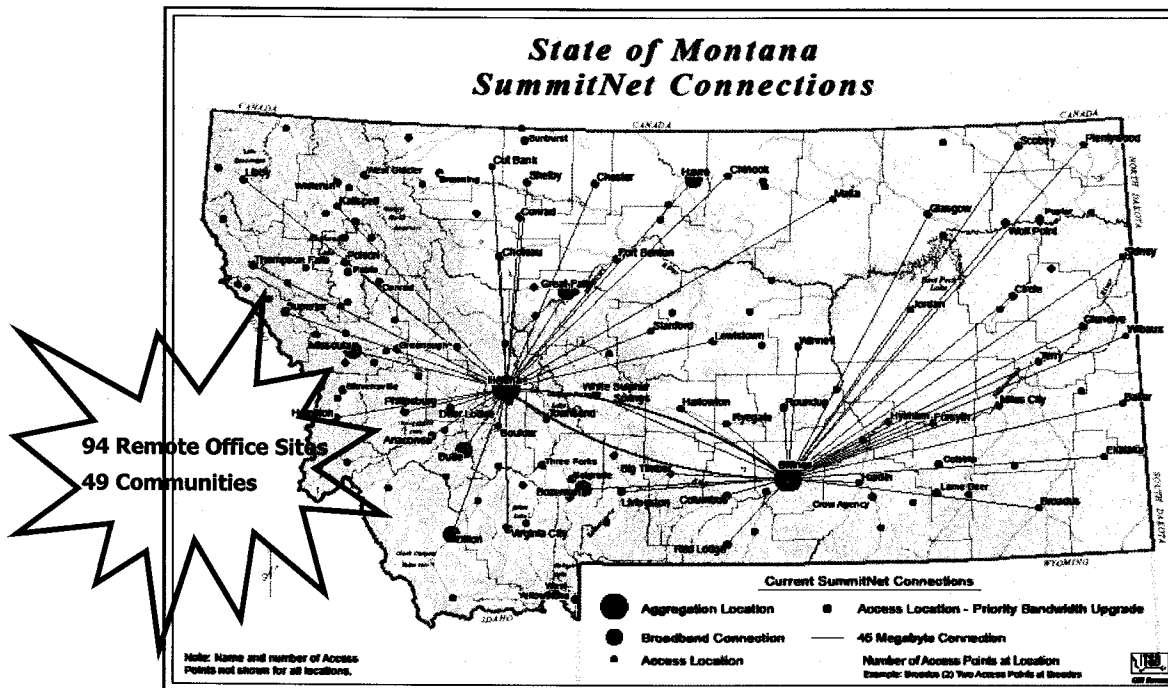
The Strategy: Ask the telecommunications companies to bid to multiple pricing models through a competitive bid:

- The State would have the option to buy network capacity "in bulk" by leasing existing fiber – The state would NOT place any new fiber in the ground
- Use the cost savings realized by buying "in bulk" on the backbone to increase the capacity at the remote sites



State Data Network Upgrade (cont.)

The Solution: Obtain additional capacity on the "backbone" and remote office sites throughout the state by a competitive bid for leased telecommunications circuits



Cost Proposal (By Expenditure Category)

Expenditure Type	FY08/09		FY10/11
	One-Time	O&M	O&M
Equipment:			
▪ Equipment Purchases	\$ 4,248,000		
▪ Equipment Maintenance		\$ 579,000	\$579,000
Communications	\$ 2,651,000		2,651,000
Software	\$ 250,000		
Personal Services	\$ 0		
Contracted Services	\$ 95,000		
Total Biennium Cost:	\$7,823,000		\$3,230,000

No FTES



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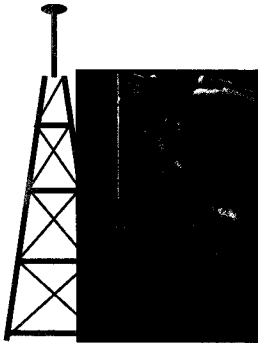
House Bill 830 – Public Safety Radio System

NP 729: Public Safety Radio Consortia

NP 730: Public Safety Radio-Interoperability Montana (IM)

The Problem: The State's public safety radio infrastructure is obsolete and is not in compliance with FCC mandates

Current radio systems hobbled by:



Funding

Aging radio systems

Inadequate maintenance

Poor radio coverage

Increasing channel congestion

Growing interference

Unnecessary duplication of infrastructure

Limited functionality

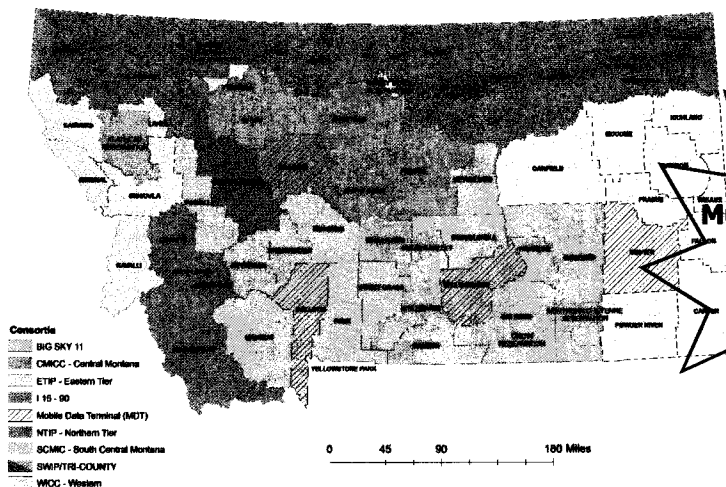
Potential for shifts in federal funding

FCC deadline: 2013

...A deteriorating public safety communications environment

The Requirement: Deploy an affordable public safety radio system that all state, local and federal agencies can share

Montana Interoperability Consortia



Multi-county consortia have been formed



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Public Safety Radio (cont.)

The Two Part Strategy:

- Fund local consortium efforts to add additional counties to the statewide system
- Fund infrastructure upgrades to add capacity and provide redundancy to ensure continued operations

NP 729: Consortium Funding

- Funding for local consortiums
- Towers, microwave, repeaters

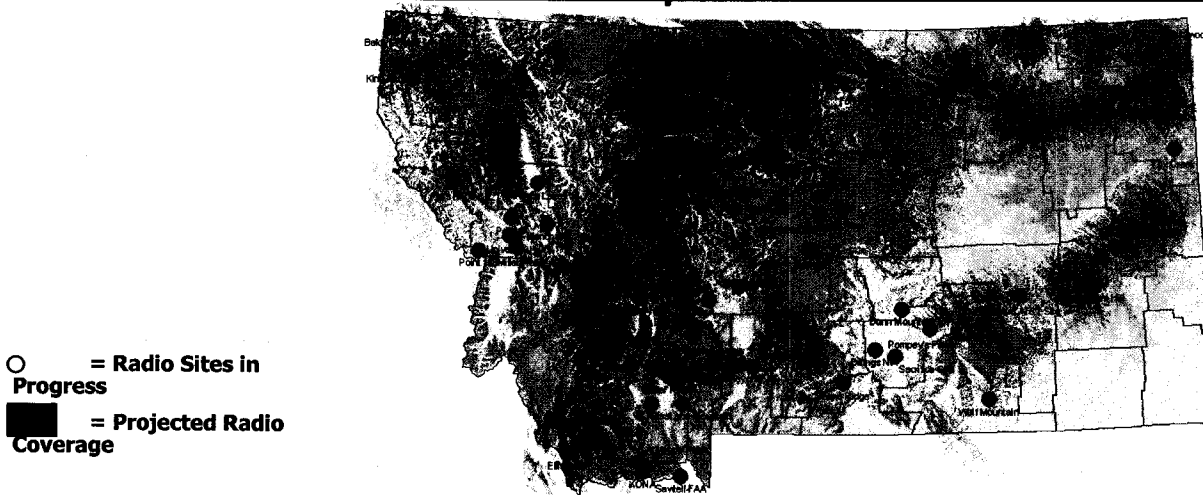
Infrastructure Improvement	\$1,300,000
Radio Trunking	\$1,700,000
Microwave Equipment	\$750,000
Project Management	\$750,000
Subscriber Units (radios)	\$250,000
Misc. Consortium Needs	\$250,000
Total:	\$5,000,000

NP 730: Interoperability Montana (IM)

- Redundant master controller in eastern Montana
- Microwave upgrades to provide redundant network

Master Controller	\$2,600,000
Construction	\$300,000
Microwave Upgrades	\$500,000
Project Management	\$100,000
Total:	\$3,500,000

Projected System Status with FY08/09 Funding

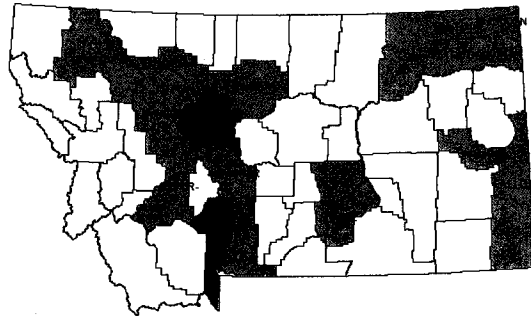


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House Bill 830 – Statewide E9-1-1 Network

The Problem: 57 PSAPs, pursuing 57 unique deployment strategies, had created a "Have's vs. Have-nots" where only 18 PSAPs had land-line E9-1-1 and only 2 PSAPs had wireless enhanced 9-1-1 in 2004



(Light BLUE: E9-1-1 deployed)

(BLUE: Phase I or II Wireless deployed)

The Requirement: Find an affordable E9-1-1 system that could be made available to all 57 PSAPs (9-1-1 Dispatch Centers)

The Strategy:

- Secure Federal and private funding
- Bid and enter into a contract to provide a statewide system

Federal Funding		
FFY03:	TYPE	AMOUNT
	E9-1-1	\$1,735,375
	Emergency Notification	\$1,900,000
FFY06:		
	E9-1-1	\$ 987,000
TOTAL:		\$4,622,375

Private (Grant) Funding		
2003:	TYPE	AMOUNT
	Public Safety Foundation Grant	\$ 50,000
2004:		
	PSAP Readiness Fund Grant	\$334,118
TOTAL:		384,118

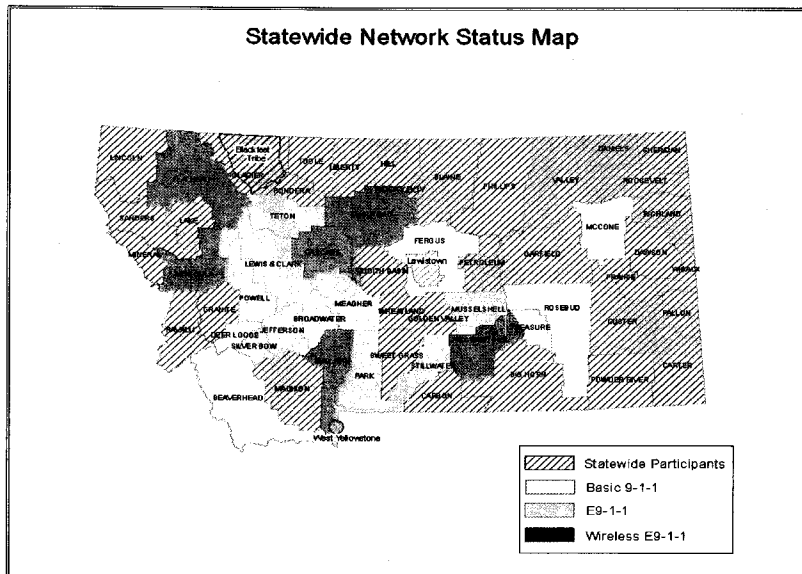


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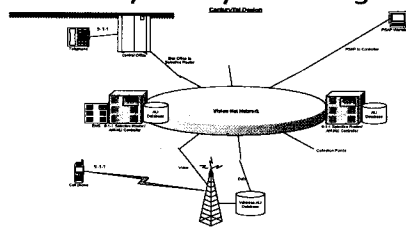


Statewide E9-1-1 Network_(cont.)

Current Status of Statewide E9-1-1 Network



CenturyTel's System Design



CURRENT E9-1-1 DEPLOYMENT STATUS

Basic 9-1-1 Deployment (Land Line Only)

Statewide

Enhanced 9-1-1 Deployment (Land Line Only) – 34 9-1-1 Centers

Blaine, Broadwater, Butte/Silver Bow, Cascade, Central MT, Chouteau, Custer-Garfield, Daniels, Fallon/N. Carter/Wibaux/Prairie, Flathead, Gallatin, Glacier, Hill, Jefferson, Lake, Lewis & Clark, Liberty, Madison, Meagher, Missoula, Musselshell, Park, Pondera, Powell, Ravalli, Richland, Roosevelt, Sheridan, Stillwater, Teton, Valley, West Yellowstone, Wheatland/Golden Valley, Yellowstone

Wireless Enhanced 9-1-1 Deployment – Phase II - 6 9-1-1 Centers

All Phase II: Cascade, Chouteau, Flathead, Gallatin, Missoula, Yellowstone

Next step build out of statewide E9-1-1 network:

Position Determining Equipment (PDE)	\$1,000,000
Installation, Management, Recurring Costs	\$ 800,000
Project Management	\$ 200,000

Wireless 9-1-1 Funding for 9-1-1 Centers:

Rural 9-1-1 Centers with less than 1% population	\$1,680,000
Divided evenly between 56 Counties	\$ 320,000

Total request: \$4,000,000



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